dispersion, and the density must also be in excess of the theoretical density, viz. 0·18 to 0·12, which we deduce respectively from the atomic volume of organic compounds, and the limiting density found by Amagat for hydrogen gas under infinite compression. My old experiments on the density of hydrogen in palladium gave a value for the combined body of 0·62, and it will be interesting to find the real density of the liquid substance at its boiling-point. Not having arrangements at hand to determine the boiling-point, two experiments were made to prove the excessively low temperature of the boiling fluid. In the first place, if a long piece of glass tubing, sealed at one end and open to the air at the other, is cooled by immersing the closed end in the liquid hydrogen, the tube immediately fills, where it is cooled, with solid air. The second experiment was made with a tube containing helium.

The *Cracow Academy Bulletin* for 1896 contains a paper by Prof. Olszewski, entitled "A Research on the Liquefaction of Helium," in which he states "as far as my experiments go, helium remains a permanent gas, and apparently is much more difficult to liquefy than hydrogen." In a paper of my own in the *Proceedings* of the Chemical Society, No. 183 (1896-97), in which the separation of helium from bath gas was effected by a liquefaction method, the suggestion was made that the volatility of hydrogen and helium would probably be found close together, just like those of fluorine and oxygen. Having a specimen of helium which had been extracted from bath gas, sealed up in a bulb with a narrow tube attached, the latter was placed in liquid hydrogen, when a distinct liquid was seen to condense. From this result it would appear that there cannot be any great difference in the boiling points of helium and hydrogen.

All known gases have now been condensed into liquids which can be manipulated at their boiling points under atmospheric pressure in suitably arranged vacuum vessels. With hydrogen as a cooling agent, we shall get within 20° or 30° of the zero of absolute temperature, and its use will open up an entirely new field of scientific inquiry. Even as great a man as James Clerk Maxwell had doubts as to the possibility of ever liquefying hydrogen (see "Scientific Papers," vol. ii. p. 412). No one can predict the properties of matter near the zero of temperature. Faraday liquefied chlorine in the year 1823. Sixty years afterwards Wroblewski and Olszewski produced liquid air, and now, after a fifteen years' interval, the remaining gases, hydrogen and helium, appear as static liquids. Considering the step from the liquefaction of air to that of hydrogen is relatively as great in the thermo-dynamic sense as that from liquid chlorine to liquid air, the fact that the former result has been achieved in one-fourth the time needed to accomplish the latter, proves the greatly accelerated race of scientific progress in our time.

The efficient cultivation of this field of research depends upon combination and assistance of an exceptional kind; but in the first instance money must be available, and the members of the Royal Institution deserve my especial gratitude for their handsome donations to the conduct of this research. Unfortunately its prosecution will demand a further large expenditure.

During the whole course of the low temperature work carried out at the Royal Institution, the invaluable aid of Mr. Robert Lennox has been at my disposal; and it is not too much to say that but for his engineering skill, manipulative ability, and loyal perseverance, the present successful issue might have been indefinitely delayed. My thanks are also due to Mr. J. W. Heath for valuable assistance in the conduct of these experiments.

NOTES.

M. MARCELLIN BOULE, of Paris; Dr. W. H. Dall, of Washington (D.C.), U.S.A.; and M. A. Karpinsky, of St. Petersburg, have been elected Foreign Correspondents of the Geological Society.

PROF. MICHAEL FOSTER has been elected President of the British Association for the meeting to be held at Dover next year.

THE annual conversazione of the Society of Arts will take place at the Natural History Museum, Cromwell Road, S.W., on Wednesday, June 22. The reception will commence at 9 p.m.

A CONVERSAZIONE of the Metropolitan Counties Branch of the British Medical Association will be held in the Museum of the Royal College of Surgeons on Tuesday, June 7.

THE Prince of Wales and the Duke of York were present on Monday night at a special meeting of the Royal Geographical Society, held in commemoration of the 400th anniversary of the discovery of the Cape route to India by Vasco da Gama. The president, Sir Clements Markham, was in the chair, and the address delivered by him upon the occasion is published in another part of this issue. At Lisbon the Vasco da Gama celebrations were inaugurated on Tuesday by the firing of a salute of 101 guns by the forts and the ships anchored in the Tagus. At a meeting of the Lisbon Geographical Society, Baron von Kell, the Dutch Minister to Portugal, presented to King Charles an album and a gold wreath, as the homage of Holland to Vasco da Gama. His Majesty accepted the gift, and said that Portugal was grateful for this act of homage.

THE Judicial Committee of the Privy Council recently granted the Hon. C. A. Parsons an extension of five years for his patent, dated April 23, 1884, for "improvements in rotary motors actuated by elastic fluid pressure and applicable also as pumps." The reasons for this decision were stated on Saturday to be that Mr. Parsons had not yet been adequately remunerated for his invention.

DR. D. J. LEECH, Professor of Materia Medica and Therapeutics in the Victoria University; Prof. W. Ramsay, of University College, London; and Prof. Ira Remsen, the Professor of Chemistry at the Johns Hopkins University, Baltimore, have been elected honorary members of the Pharmaceutical Society of Great Britain.

IN the High Court of Justice on Saturday an application was made on behalf of the shareholders of the Sheffield Botanical and Horticultural Society, that the trustees might be ordered to sell its property in pursuance of resolutions passed at meetings of the members, and distribute the proceeds of the sale among the members. It was urged by the Attorney-General that the property of the Society ought not to be so divided, but ought to be given to some other institution of a like character. The judgment was, however, that the applicants were entitled to the order they asked for.

PROF. J. M. SCHAEBERLE has resigned his post as astronomer at the Lick Observatory, California.

MR. HENRY WILDE, F.R.S., has been elected an honorary member of the Institution of Electrical Engineers.

THE Boston Society of Natural History has awarded the Grand Honorary Walker Prize of one thousand dollars to Mr. Samuel Hubbard Scudder, of Cambridge, Mass., for his contributions to entomology. The prize is awarded every five years, and the four previous recipients have been Mr. Alexander Agassiz, Prof. Joseph Leidy, Prof. James Hall, and Prof. James D. Dana.

THE annual electrical exhibition was opened at New York City on May 2. The President of the United States, following the usual custom, set the machinery in motion by pressing a button at Washington. He also sent congratulatory messages, as did the Vice-President. The opening address was by Chauncey Depew, who supplemented his remarks by firing off a dynamite gun, without wires by the long-distance system of telegraphy, and by blowing up a mimic steamer in the tank by a submarine-mine.

WE regret to record the death of Mr. W. C. Lucy, F.G.S., formerly of Brookthorpe, near Gloucester. For upwards of forty years Mr. Lucy was one of the most active and enthusiastic members of the Cotteswold Naturalists' Field Club. To the *Proceedings* of the Club he contributed numerous papers, including observations on the Drifts of the Severn, Avon and

Evenlode Valleys, on the Oolites and Lias of the Cotteswold Hills, &c. In 1887 he published an essay on the origin of the Cotteswold Club, with an epitome of its *Proceedings.* He died on May 11, aged seventy-five.

The *British Medical Journal* states that the Pasteur Institute at Constantinople, which recently had to close its doors owing to want of funds and the utter indifference as to its well-being shown by the Turkish Government, has been reopened. This gratifying result is due partly to the intervention of M. Boulinière, Chargé d'Affaires of the French Embassy, and partly to the action taken by the Imperial Society of Medicine, which addressed a strong protest on the subject to the Sultan. His Majesty's attention having thus been drawn to the condition of the institution, in which he had always taken the keenest interest, at once gave instructions that Dr. Nicolle should be furnished with everything that he required, and satisfactory guarantees were given that funds and all other assistance that might be needed should henceforth be abundantly supplied. It is expected that the outcome of the affair will be a considerable development of the usefulness of the Institute.

We regret to see the announcement, in the *Manchester Guardian*, of the untimely death of Dr. C. Herbert Hurst, formerly on the staff of the Zoological Department of the Owens College. Dr. Hurst was an alumnus of the Manchester Grammar School, and studied biology under Prof. Huxley with conspicuous success. After some experience as resident science master in a boys' school he entered the Owens College as a student in 1881, and in January 1883 was appointed to the post of demonstrator and assistant lecturer in zoology under the late Prof. Milnes Marshall. For eleven years he filled this office with conspicuous diligence and success, and not only earned the grateful recollection of several generations of students of the College, but also laid under obligation a much wider circle of zoologists by his share in the production of the "Text-book of Practical Zoology," which has made the names of Marshall and Hurst familiar in every biological laboratory not only in this country but in the world. In 1889 he took advantage of a prolonged leave of absence granted by the College authorities to pursue his studies at the University of Leipzig, where he carried out a valuable investigation into the life-history of the gnat *Culex*, for which he was awarded the degree of Ph.D. Latterly he had undertaken what he termed "a systematic criticism of biological theory," in the course of which he published discussions on "The Nature of Heredity," "Evolution and Heredity," "The Recapitulation Theory," and other kindred topics. In these essays certain modern views were subjected to trenchant and unsparing criticism, for Dr. Hurst was a keen controversial writer, and never hesitated to express himself clearly and forcibly even at the risk of obloquy and unpopularity. His last writings were "The Structure and Habits of Archæopteryx" and "A New Theory of Hearing." In 1895 Dr. Hurst left the Owens College to fill a similar position in the Royal College of Science, Dublin. His premature death deprives zoology of a zealous and upright worker, who was most esteemed by those who knew him best.

During the past two months the Plymouth laboratory of the Marine Biological Association has been well filled with investigators, particularly during the Easter vacation, when all the available space was in requisition. The following is a list of the gentlemen who visited the laboratory during this period, together with the subjects of their researches:—Dr. N. B. Hartman, St John's College, Cambridge (Sense-organs of Fishes), Mr. T. H. Taylor, Yorkshire College, Leeds (Polyzoa), Mr. F. W. Gamble, Owens College, Manchester (Nervous System of Polychæta), Mr. A. H. Church, Jesus College, Oxford (Algæ), Mr. E. T. Browne, University College, London (Hydroids and Medusæ), Mr. E. S. Goodrich, Merton College, Oxford (Nephridia of Polychæta), Mr. G. Brebner, University College, Bristol (Algæ), Mr. S. D. Scott, King's College, Cambridge (Excretory Organs of Tunicata), and Mr. W. I. Beaumont, Emmanuel College, Cambridge (General). Mr. Garstang's Easter class for the study of marine biology was attended by eight undergraduate students from Oxford, Cambridge, Eton, and the Yorkshire College, Leeds. Among the more recent captures of interest may be specially mentioned Mr. Browne's rediscovery in quantity of the remarkable bitentaculate Hydroid known as *Lar sabellarum*, which gives rise to the aberrant Medusa *Willia stellata.*

The Council and Parliamentary Bills Committee of the British Medical Association have drawn up a report on the Vaccination Bill now before Parliament. Referring to the clause for the extension of the age limit for infantile vaccination, the opinion is expressed that the proposal to extend the limit from three to twelve months is injudicious and would prove prejudicial in the presence of an outbreak of small-pox. In Scotland the age limit is six months; and this is the limit which is recommended. As vaccination should be practically an aseptic operation, it is suggested that some modification of the clause referring to domiciliary vaccination is needed. The home of a child may be in a slum, dirty, overcrowded, and infected; and asepsis cannot be secured in such surroundings. The proposal is therefore made that, where the house is uncleanly, it should be possible to insist on the child being taken not necessarily to a public station but to the consulting-room, either of the public vaccinator or of some private practitioner. The main defect of the Bill is considered to be the omission of all reference to re-vaccination, and the Council and Committee are of the opinion that re-vaccination should be insisted upon at the age of twelve years.

A plea for a kinematograph bureau is put forward by M. Boleslas Matuszewski, Paris, in a pamphlet of which a copy has been sent to us. His view is that a national or international bureau, directed by a responsible Government official, should be established to receive kinematographs and preserve them for their historical value.

From the *Bulletin* of the Royal Botanic Gardens, Trinidad, we learn that in the botanical department of the Agricultural Exhibition, recently held in the Colony, a new form of machine for the extraction of rubber was exhibited in action. The rubber in the space of two minutes is separated from the *latex*, or milk, of the Castilloa tree, and is then put to dry. In the space of some three hours, sheets or slabs of fine clear marketable rubber is produced, free from the usual amount of proteid and albuminoid matters which are usually found in rubber produced by the ordinary process.

An important contribution to the theory of warning colours and mimicry is made to the *Journal* of the Asiatic Society of Bengal (vol. lxvii. part 2, No. 4, 1897) by Mr. F. Finn, Deputy Superintendent of the Indian Museum. The paper is the final one of a series of four, and in it Mr. Finn gives an account of his experiments with birds other than the Babblers, to which his first paper was devoted, together with a general summary of the results and inferences. He concludes from his experiments: (1) That there is a general appetite for butterflies among insectivorous birds, even though they are rarely seen when wild to attack them. (2) That many, probably most, species dislike, if not intensely, at any rate in comparison with other butterflies, the "warningly-coloured" *Danainæ*, *Acræa violæ*, *Delias eucharis*, and *Papilio aristolochiæ*; of these the last being most distasteful, and the *Danainæ* the least so. (3)

That the mimics of these are, at any rate, relatively palatable, and that the mimicry is commonly effectual under natural conditions. (4) That each bird has separately to acquire its experience, and well remembers what it has learned. On the whole, therefore, the theory of Wallace and Bates is supported by the facts detailed in Mr. Finn's papers, so far as they deal with birds (and with the one mammal used). Prof. Poulton's suggestion that animals may be forced by hunger to eat unpalatable forms is also more than confirmed by Mr. Finn's experiments, as the unpalatable forms were commonly eaten without the stimulus of actual hunger—generally, Mr. Finn adds, without signs of dislike.

IN *Bulletin* No. 2 of the Blue Hill Meteorological Observatory, Mr. H. H. Clayton gives some very interesting examples of the diurnal changes in temperature and humidity at different heights in the free air. The observations were made by means of kites, and on two occasions these were maintained in the air during a large part of twenty-four consecutive hours. The results show that the diurnal variation of temperature was very slight or had entirely disappeared at about 2300 feet, and that the relative humidity curve at that height was exactly opposite in phase to that recorded at lower levels; the minimum humidity was recorded at night, and the maximum during the day. The records during the day show that to a certain height (which varies under different conditions) the temperature in the lowest stratum decreases with increase of altitude approximately at 1°·7 per 330 feet. Above that height the air is suddenly found warmer, and then the temperature decreases with increasing height at a somewhat lower rate. During the night there is a marked inversion of temperature between the ground and 600 to 1000 feet. Above that height the temperature decreases at a fairly uniform rate. The experiments were made under the superintendence of Mr. A. L. Rotch, the proprietor of the observatory.

THE latest contribution to the question of the age of the earth comes from Mr. J. G. Goodchild, of H.M. Geological Survey, in the form of a presidential address delivered before the Royal Physical Society of Edinburgh, and just published in the Society's *Proceedings* (Session cxxvi., 1896-97). Many geologists have attempted to estimate the length of the interval between the present time and the period when the oldest strata containing fossils were laid down; and "vague, indefinite, but unquestionably vast beyond conception" have been the conclusions. Mr. Goodchild passes in review certain changes which are known to have taken place in the past, working backwards from the Glacial Period, and estimates the time required for the formation of the rocks of the various geological periods. He concludes that ninety-three millions of years have elapsed since the commencement of the Tertiary Period, and seven hundred millions of years since the commencement of the Cambrian Period. Moreover, the beginning of life upon the earth may be as much further back from Cambrian times as Cambrian times are removed from our own, so that the total estimate assumes tremendous proportions.

IN the paper referred to in the preceding note, Mr. Goodchild confines his attention to the purely geological side of the question of the age of the earth, leaving the physicists to take up the discussion and deal with it in the light of new facts and views. He suggests in conclusion that the following points need consideration: (1) Is it certain that the whole of the downward increment of heat within the earth is due to any vestige of the earth's original heat? If not, why may not part of it be due to the conversion of the energy of motion arising from terrestrial undulation (set up mainly by luni-solar gravitational energy) into the energy of heat? (2) Is it certain that radiant energy in general differs from gravitational energy in operating only between two solid bodies? If radiant energy acts only between any two material bodies, how do we know that the radiant energy of the sun, or the heat of the earth, is being dissipated into space at anything like the rate which is generally assumed to be the case?

WE learn from the *Lancet* that the use of Röntgen rays as a means of certifying the existence of death was demonstrated at a recent meeting of the Biological Society of Paris. M. Bougarde showed three photographs of the thorax, two of them from living persons and the third from a corpse, all taken by the X-rays. In the two first the different thoracic organs and the walls of the thorax itself exhibited a hazy outline, so that their limits could not be exactly made out. This, of course, was owing to the natural movements of the parts, the pulsations of the heart and the great vessels, and the movements of the diaphragm. Even when the subjects held their breath so as to minimise movement as much as possible the outlines were still hazy, and the outline of the diaphragm was seen as a shadow varying in depth and extending over the ninth and tenth intercostal spaces. The heart and great vessels were seen to occupy the centre of the chest as a dark oval mass, the shadow of which was dense in the centre, and gradually faded away towards the periphery until the almost transparent lungs were reached. In the radiograph of the corpse, however, the appearance was quite different, for all the organs had sharp and well-defined edges.

THE *Proceedings* of the Academy of Natural Sciences of Philadelphia contains an account of the discovery of a complete volcanic crater of Mesozoic age near Pottstown, Montgomery County, Pennsylvania, by Mr. E. Goldsmith. The chief interest of the paper centres round the microscopical examination of some varieties of de-vitrified obsidian and of gabbro-phonolite. Some specimens of amygdaloid were obtained from a boring which showed remarkable fluidal texture even to the unaided eye. Basaltic columns of exceptional size were observed, the diameters of the six-sided sections measuring in some cases ten, eleven, and even fifteen feet across.

MR. E. GOLDSMITH contributes an interesting note on the petrification of fossil bones to the *Proceedings* of the Academy of Natural Sciences of Philadelphia. In digging for human remains in the deposits of the Port Kennedy limestone quarry, a fissure in the Silurian limestone on the Schuylkill River, Pennsylvania, it was found that many of the fossil bones obtained "fell to a mealy powder" when touched. Mr. Goldsmith has subjected specimens in various stages of petrifaction to analysis, and finds that the "bone meal" contains little or no calcium phosphate, but that it consists essentially of dolomite. It is supposed that the change is effected by carbon dioxide in the water retained in the fissure, the phosphoric acid being transferred and reunited with ferric oxide and alumina to form vivianite (which was found in the neighbourhood), and magnesia being taken up at the same time.

THE current number of the *Annales de l'Institut Pasteur* contains the report for the past year of the anti-rabic inoculations carried out in Paris. No less than 1521 persons underwent the treatment, which is 213 in excess of the number recorded for the year 1897. In all, eight deaths from rabies occurred, two of which, however, took place during the course of treatment and before it could have taken effect. In one case a patient was admitted in April, and underwent the inoculations, but succumbed to rabies in the middle of October. Out of the total number of patients 175 were foreigners, and of the latter Egypt contributed 2, Greece 1, the United States 1, Germany 8, Belgium 14, Switzerland 33, British India 33; whilst England, as usual, far exceeds in its contribution that of any other nation, the substantial number of 83 being sent from this country. By far the largest number of patients were admitted suffering from bites on the hands; next in order come bites on the limbs, whilst in 151 cases the injuries were inflicted on the head. The Seine Department appears to be the district where rabies is most prevalent in France, more than one-third of all the cases coming from this part of the country.

A pamphlet on "Science and Engineering during the Victorian Era (1837-1897)," by Mr. Charles Bright, has been published by Messrs. Archibald Constable and Co. The pamphlet is a reprint of an introduction which Mr. Bright wrote for the Victorian Era Exhibition held at Earl's Court last year.

To encourage and facilitate the use of the metric system in the United Kingdom, the *Pharmaceutical Journal* recently published a series of tables of metric equivalents of Imperial Weights and Measures, and thermometric equivalents. The tables have been found of great assistance, and they have now been reprinted in a convenient form for reference by pharmacists, chemists, and medical men.

We have received the fourth number of the new *Journal of Applied Microscopy*, published monthly by the Bausch and Lomb Optical Company, of Rochester, N.Y. The present part is chiefly devoted to methods of imbedding and staining sections, but photo-micrography also receives its share of attention.

The additions to the Zoological Society's Gardens during the past week include a Rhesus Monkey (*Macacus rhesus*, ♀) from India, presented by Mr. W. H. Lewis; a Macaque Monkey (*Macacus cynomolgus*, ♂) from India, presented by Mrs. Eyre; a Red-backed Buzzard (*Buteo erythronotus*), captured at sea, presented by Mr. Ernest Hartley; two Banded Parrakeets (*Palæornis fasciata*, ♂ ♂) from India, presented by Lady Lumsden; a Cardinal Grosbeak (*Cardinalis virginianus*) from North America, presented by Mrs. Harry Blades; two Crested Screamers (*Chauna cristata*) from Buenos Ayres, two Scaly-breasted Lorikeets (*Psitteuteles chlorolepidotus*) from New South Wales, purchased; two Black-backed Geese (*Sarcidiornis melanonota*) from India, two Grey-lag Geese (*Anser cinereus*), British, received in exchange.

OUR ASTRONOMICAL COLUMN.

Observations of Variable Stars.—A most useful and valuable series of variable star observations has just been published by Dr. Francesco Porro in a memoir in the *Pubblicazioni del Reale Osservatorio Astronomico di Torino*, No. 4. The observations were made at Torino and Soperga, and extend over the years 1889-95.

Comet Perrine (March 19).—The following is a continuation of the ephemeris of Comet Perrine for the ensuing week:—

1898.	R.A. h. m. s.	Decl. ° ′	Br.
May 20	2 17 30	+55 36·6	0·30
21	22 25	43·4	
22	27 18	49·5	
23	32 6	55·0	
24	36 52	59·9	0·27
25	41 34	56 4·3	
26	46 13	8·1	
27	2 50 48	+56 11·3	

France and International Time.—Slowly but surely the scheme for dividing the time all over the world into an equal number of zones, differing from one another by one hour, is extending, and we hope before long that such a rational system of international time will be universally adopted. Even now here are some notable outstanding countries which as yet have not thought fit to adopt this principle. Before, however, one can say anything more in the matter, the case of Ireland must be remembered. There is no doubt that if we wish other countries to adopt a system of time zones, we should see that, at least, Great Britain, if not all British colonies, is one in the adoption of the scheme. There is absolutely no reason why Ireland should not adopt Greenwich time; but yet Dublin time is daily used, and all the while we are laughing at the prejudices of France for not instantly adopting the Greenwich meridian, which is only a matter of less than ten minutes. For Ireland there is absolutely no excuse for not coming under the new *régime*, but with France it is different. A change from mean Paris to mean Greenwich time would necessitate a great amount of work in altering their numerous publications, such as the *Connaissance de Temps* and other almanacks, to say nothing of charts, &c. Such difficulties have not, however, hindered her from adopting the international system of time zones; and although the new time she has adopted is really Greenwich time, yet the "national hour" is that "of the meridian of Paris diminished by 9m. 21s." In an interesting article (*Revue Scientifique*, May 7, 1898) on this subject, M. Bouquet de la Grye does not seem to advocate the step taken by France, and concludes that this adoption will be "contrary to the interests of our country, tradition, scientific spirit." The following list of meridians successively adopted, which is of interest, we have taken from the above-mentioned article:—

Dicéarque, of Messina, adopted the island of Rhodes, 300 B.C.

Eratosthenes chose the meridian of Alexandria, 270 B.C.

Marin de Tyr took for the origin the meridian of the islands of Fortune in the year 80 A.D.

The Arabians chose the meridian of Mecca, and also that of the column of Hercules, 800 A.D.

The Alphonsine tables assumed as their origin the meridian of Toledo, 1250 A.D.

Mercator took the Azores for the initial meridian, 1569 A.D.

The Paris Congress chose the island of Fer, 1633 A.D.

It was decided, after the example of Guillaume Delille, to place the meridian of the island of Fer 20° to the west of that of Paris, 1724 A.D.

A New Long Period Variable.—Herren Müller and Kempf describe some observations which have led them to discover an interesting variable star of evidently long period (*Astr. Nachr.*, No. 3491). The star in question is B.D. + 30°·591, R.A. 3h. 49m. 8s., Decln. + 30° 46′·0 1900·0, and was included in their list of comparison stars for the Potsdam Photographic Durchmusterung. As soon as this star was found to vary its magnitude, observations were at once begun to determine its period. The following table shows the magnitudes, as yet, obtained.

Appearance in	Mean date.	No. of obs.	Mag.	Curve.	Mag. curve.
1887-88	1888 March 10	4	6·36	6·31	+0·05
1888-89	Nov. 24	16	6·29	6·31	−0·02
1889-90	1890 Jan. 11	14	6·33	6·31	+0·02
1890-91	Dec. 12	16	6·30	6·31	−0·01
1891-92	—	—	—	—	—
1892-93	—	—	—	—	—
1893-94	1894 Feb. 22	5	6·44	6·46	−0·02
1894-95	1895 March 6	9	6·60	6·59	+0·01
1895-96	1896 Jan. 19	41	6·69	6·70	−0·01
1896-97	Dec. 21	28	6·82	6·81	+0·01
1897-98	1897 Dec. 1	26	6·92	6·93	−0·01

The fourth column gives the observed magnitudes of the variable, the fifth the magnitudes as obtained by drawing a curve through the points when plotted with the time as abscissæ and the magnitudes as ordinates; and, lastly, the sixth denotes the differences between the two latter. A glance at the curve shows that the star from 1887 to the middle of 1891 retained its original brightness, namely 6·31 mag. It began then to dim off, and from the beginning of 1894 it has decreased 0·01 magnitudes monthly, or a little over one-tenth of a magnitude in a year. This new variable is said to be of a yellowish-white colour. With the help of the 30-inch Pulkova refractor Herr Renz has examined the star for duplicity, but could not detect a second body. Probably the spectroscope may tell us more about the constitution of this interesting variable: it is hoped that both spectroscopic and photometric observations will be made to unravel the mystery of such a long period variable as this appears to be.